EXTENT-OF-CONTAMINATION STUDY FOR THE DAYTON TIRE & RUBBER COMPANY SITE

by

PEI Associates, Inc.
11499 Chester Road
Cincinnati, Ohio 45246

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CLIN 13 and CLIN 15
PEI Project No. 3767

Robert J. Bowden
Project Officer

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION V
EMERGENCY RESPONSE SECTION
CHICAGO, ILLINOIS 60604

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EXECUTIVE SUMMARY

As part of a site-specific emergency response cleanup contract with the U.S. Environmental Protection Agency PEI Associates, Inc., performed the extent-of-contamination study at the Dayton Tire & Rubber Company site, an abandoned manufacturing facility in Dayton, Ohio. The initial site screening identified several areas on the roof, inside the building, and on the site grounds affected by spillage and track-out of PCB-containing transformer and capacitor oil as well as evidence of burning (ash and soot) and suspected dioxin/furan contamination. Also identified were extensive areas of loose and friable asbestos-containing material (ACM), 11 storage tanks (including three buried tank cars), and approximately 100 drums of unidentified material. Possible ground-water contamination was also considered as a part of the PEI study.

From November 23, 1987, through April 2, 1988, PEI collected over 650 swipe samples (under CLIN 13 and CLIN 15) for analysis for PCB's from building and equipment surfaces in five transformer areas (A through E), five vaults (1 through 5), two switch rooms (1 and 2), and associated spill and track-out areas. These results were mapped to provide a broad definition of "clean" and "dirty" zones based on the 10 µg/100 cm^2 cleanup standard for PCB's specified in 40 CFR 761.125(c)(4)(iii). Extensive areas of the floor in the basement and on the ground level exhibited PCB contamination above the cleanup criterion. Containment areas associated with the roof transformers were also contaminated with high levels of PCB's; however, widespread contamination was not identified.

About 5 percent of the PCB swipe samples collected between November 23, 1987, and January 31, 1988, were submitted for analysis of dioxins and furans. Although all of the dioxin/furan samples with reportable results had quantifiable concentrations of some dioxin or furan homologues, only seven samples (four from Vaults 3 and 4 and three from Switch Rooms 1 and 2) had quantifiable concentrations of tetrachlorinated dibenzodioxins (TCDD's) or furans (TCDF's). Three samples containing detectable levels of TCDF's were

submitted for isomer-specific analysis. In no instance did the 2,3,7,8-TCDD equivalence of a sample exceed the calculated clean criterion of 1 ng/100 cm^2.

PEI collected soil core samples for analysis for PCB's from several locations in the Transformer E, Sump Pump House, and Courtyard areas. Soils immediately to the north and south of the Transformer E pad and in the Courtyard area below Transformer D were found to be contaminated with PCB's at concentrations exceeding the 25 µg/g cleanup criterion for soil. The vertical extent of contamination, which was found to be deeper than initially expected, was not completely defined because of the limits of this contract. Stockpiled soil from the pipe trench excavation and bank sediments along Wolf Creek also exhibited PCB contamination above the cleanup criterion.

PEI installed, developed, and sampled 10 ground-water monitoring wells on site. Samples were analyzed for all 149 hazardous substance list (HSL) constituents. No pesticides or PCB's were detected in any of the wells. Methylene chloride and arsenic were quantified at levels above the drinking water removal action levels in wells PEI-8 and PEI-10. The water-quality data indicate that the upper aquifer beneath the site has been slightly degraded. Because this aquifer is not a source of drinking water, however, no immediate health threat exists at this time.

PEI visually inspected each building area for suspect asbestos-containing material (ACM). Bulk samples of floor debris, loose or damaged materials, and materials still in place were subsequently collected and arranged into homogeneous groups. A group was determined to be positive for ACM if at least one sample from that group contained more than 1 percent asbestos by weight. Although ACM was found to be present throughout the building, the majority of this material has not deteriorated or become friable.

PEI sampled the contents of the three buried tank cars and eight 12,000-gallon basement storage tanks for determination of their hazardous characteristics (ignitability, corrosivity, reactivity and EP-TOXICITY). The basement storage tanks were determined to be empty. Analysis of samples collected from the buried tank cars indicated that the contents of these tank cars are nonhazardous.

PEI inventoried all drums and containers on site. Those drums containing oily wastes were sampled and analyzed for PCB's. Only two of 12 drums had reportable PCB levels; none exceeded the 50-ppm action level.